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(71) Applicant: MATSUSHITA ELECTRIC IND CO LTD

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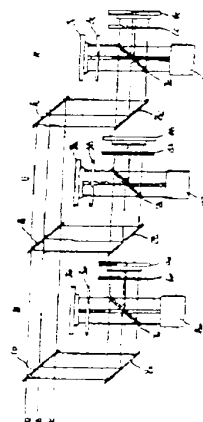
(54) LIQUID CRYSTAL PROJECTION TYPE
TELEVISION AND LIQUID CRYSTAL
PROJECTION TYPE COLOR TELEVISION USING
SAME

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(57) Abstract:

PURPOSE: To enhance the utilization efficiency of incident light by projecting light which is modulated by a 1st reflection type liquid crystal panel and transmitted through a 1st phase difference plate again and light which is modulated by a 2nd reflection type liquid crystal panel and transmitted through a 2nd phase difference plate again on the same position by using optical element parts.

CONSTITUTION: A cholesteric liquid crystal panel 7a reflects the R circularly polarized light of light B, a cholesteric liquid crystal panel 7b reflects the R circularly polarized light of the light G and a cholesteric liquid crystal panel 7c reflects the R circularly polarized light of light R. The panels 7a reflects the R circularly polarized light of the light B, and the R circularly polarized light is converted into linearly polarized light by a 1/4 wavelength plate 5a. A TN liquid crystal panel 3a modulates the inputted light in accordance with an impressing signal, converts it to the linearly polarized light which is converted by 90°, and projects it. The linearly polarized light is made incident on the 1/4 wavelength plate 5a again and the panel 7a converts it to L circularly polarized light which rotates reversely to the previous polarized light. Therefore, the L circularly polarized light is transmitted through the panel 7a, made incident on a projection lens 8a, and enlarged and projected to a screen (which is not shown by figure).



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図14はアクティブマトリックス型液晶パネルの構成図、図15図は透過型液晶パネルの動作説明のための模式図である。

3a, 3b, 3c, 4a, 4b, 4c...反射型液晶パネル、5a, 5b, 5c, 6a, 6b, 6c...1/4波長板、7a, 7b, 7c...コレステリック液晶パネル、8a, 8b, 8c...投影レンズ系。

代理人の氏名 弁護士 小野田 明 はか2名

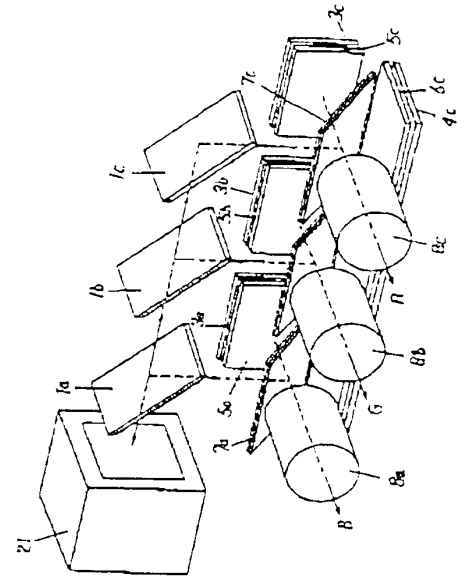
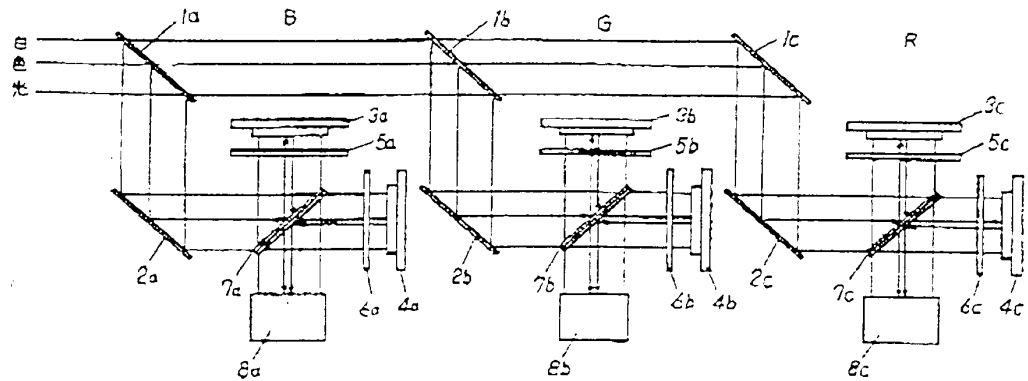


図 2 例

図面の浄書(内容に変更なし)

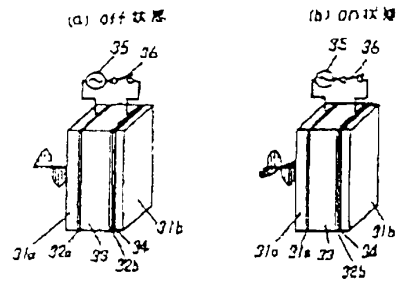
図 1 例

3a, 3b, 3c, 4a, 4b, 4c... 反射型液晶パネル
5a, 5b, 5c, 6a, 6b, 6c... 1/4波長板
7a, 7b, 7c... コレステリック液晶パネル
8a, 8b, 8c... 投影レンズ系

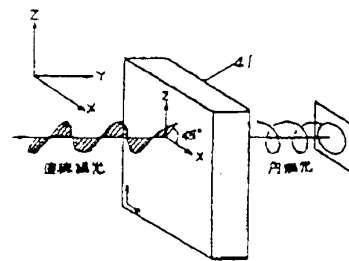


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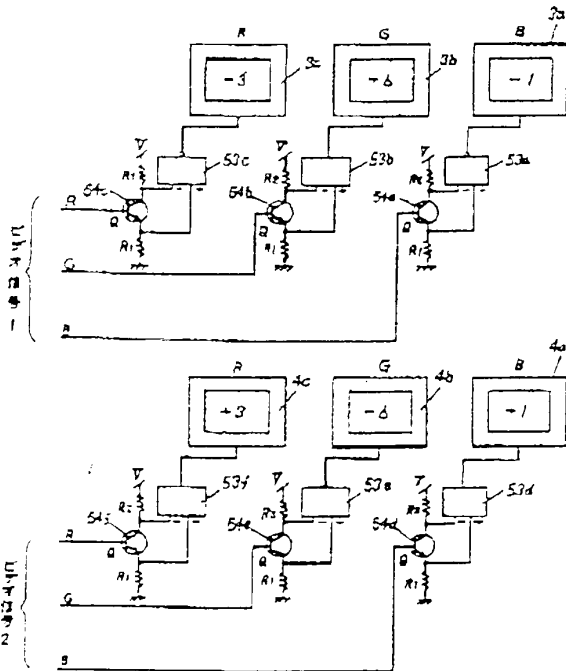
第 3 図



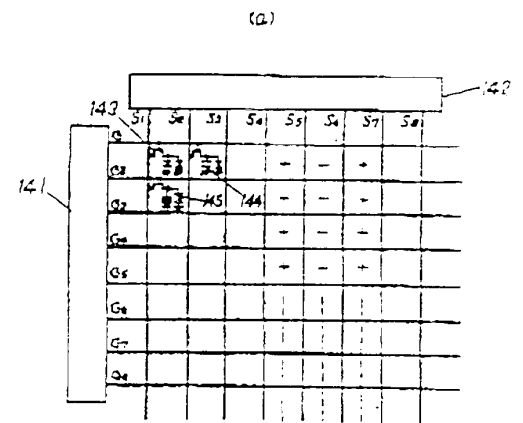
第 4 図



第 6 図

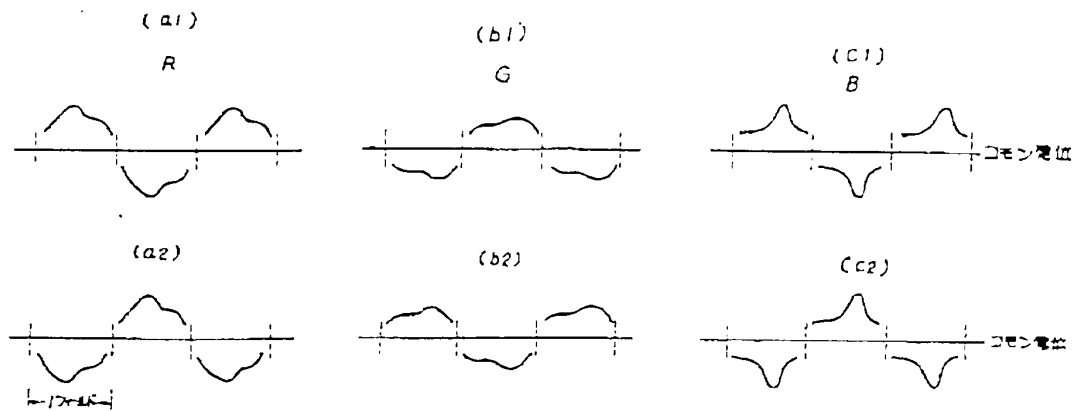


第 8 図

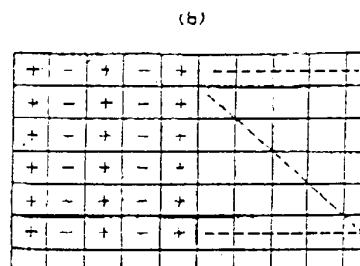


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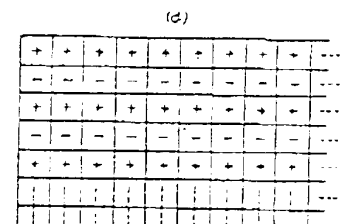
第 7 図



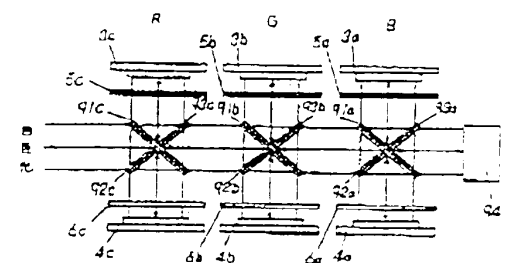
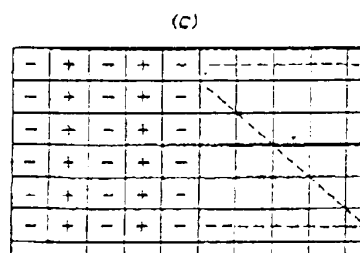
第 8 図



第 8 図



第 9 図



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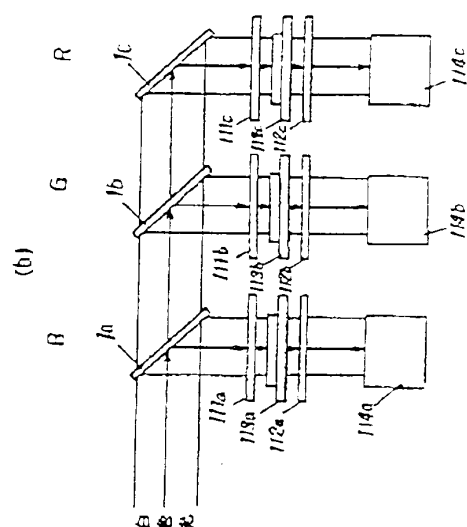
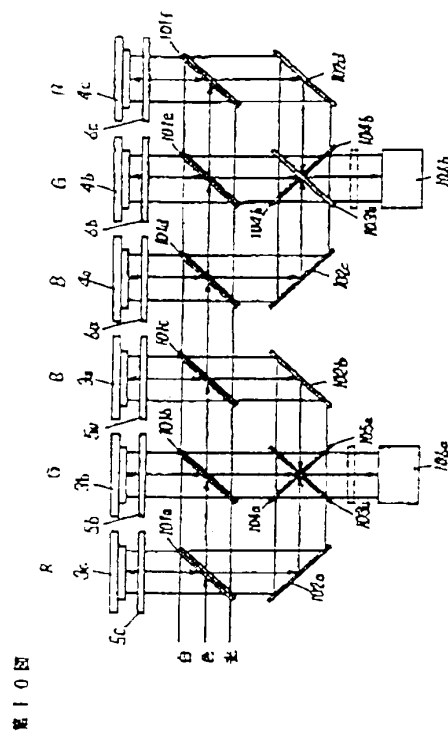


FIG. 11

FIG. 12

(a)

